

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A carbon nanotube manufacturing apparatus, comprising:
 - a reaction tube in which a carbon nanotube is grown by vapor phase growth;
 - a gas supplying pipe that supplies a carbon-containing raw material carried on a gas flow to an interior of the reaction tube;
 - a heating unit that heats the interior of the reaction tube;
 - a gas decomposer that is placed in the reaction tube to decompose the carbon-containing raw material upon contact with the gas flow; and
 - a synthesizing portion that is placed in the reaction tube and continuously supplied with the decomposed carbon-containing raw material, which has been carried on the gas flow to an outside of the gas decomposer, to synthesize a carbon ~~nanotube~~nanotube,
the gas decomposer is a molecular sieve.
- 2-3. (Cancelled)
4. (Original) A carbon nanotube manufacturing apparatus according to claim 1, wherein the synthesizing portion comprises one or two or more substrates.
5. (Original) A carbon nanotube manufacturing apparatus according to claim 1, wherein the synthesizing portion comprises two or more substrates arranged approximately parallel to one another.
6. (Original) A carbon nanotube manufacturing apparatus according to claim 4, wherein the gas decomposer is placed on a surface of the substrate that serves as the synthesizing portion.

7. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 1, wherein:

the gas supplying pipe is extended to the interior of the reaction tube so that a releasing port of the gas flow is positioned inside the reaction tube; and

the gas decomposer is placed in the gas supplying pipe in a manner that allows the gas decomposer to have contact with the flow of gas supplied.

8. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 7, further comprising an auxiliary heating unit that serves to heat the gas decomposer in the vicinity of the gas decomposer in the gas supplying pipe.

9. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 7, wherein the gas decomposer comprises an aggregation of a granular porous material.

10. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 7, wherein the gas decomposer comprises an aggregation of a granular porous material formed from a metal oxide material and from a carbon material.

11. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 7, wherein the synthesizing portion is placed in the vicinity of the gas flow releasing port of the gas supplying pipe.

12. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 11, wherein the synthesizing portion comprises one or two or more substrates.

13. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 11, wherein at least one of the substrates serving as the synthesizing portion is placed perpendicular to or at an angle to the direction of the flow of the gas released from the releasing port of the gas supplying pipe.

14. (Withdrawn) A carbon nanotube manufacturing apparatus according to claim 1, wherein the gas decomposer is placed on the entirety of or a part of an inner wall of the reaction tube and the synthesizing portion is placed on a surface of the gas decomposer.

15. (Original) A carbon nanotube manufacturing apparatus according to claim 1, wherein a metal catalyst is put in the synthesizing portion.

16. (Original) A carbon nanotube manufacturing apparatus according to claim 15, wherein the metal catalyst having a thin film form is put in the synthesizing portion.

17. (Original) A carbon nanotube manufacturing apparatus according to claim 1, wherein the synthesizing portion comprises a substrate that is formed from a material containing a metal catalyst.

18. (Original) A carbon nanotube manufacturing apparatus according to claim 1, wherein:

the heating unit comprises a heating furnace; and

the reaction tube is placed inside the heating furnace.

19-32. (Canceled)

33. (Withdrawn) A carbon nanotube manufacturing method comprising:
decomposing a carbon-containing raw material carried on a gas flow by
bringing the gas flow into contact with a heated gas decomposer; and

synthesizing a carbon nanotube on a synthesizing portion by continuously
supplying the decomposed carbon-containing raw material carried on the gas flow to an
outside of the gas decomposer to the synthesizing portion,

wherein the carbon nanotube manufacturing apparatus of claim 1 is employed.

34. (Currently Amended) A gas decomposer for use in carbon nanotube
manufacture in which a carbon-containing raw material carried on a gas flow is decomposed

to synthesize a carbon nanotube from the decomposed carbon-containing raw material, comprising a porous material that is a molecular sieve.

35. (Original) A gas decomposer according to claim 34, comprising a metal oxide material and a carbon material.

36. (Canceled)

37. (New) A carbon nanotube manufacturing apparatus, comprising:
a reaction tube in which a carbon nanotube is grown by vapor phase growth;
a gas supplying pipe that supplies a carbon-containing raw material carried on a gas flow to an interior of the reaction tube;
a heating unit that heats the interior of the reaction tube;
a gas decomposer that is placed in the reaction tube to decompose the carbon-containing raw material upon contact with the gas flow;
a synthesizing portion that is placed in the reaction tube and continuously supplied with the decomposed carbon-containing raw material, which has been carried on the gas flow to an outside of the gas decomposer, to synthesize a carbon nanotube,
the gas decomposer is a zeolite-based material which has a pore diameter of 0.3 to 100 nm.

38. (New) A carbon nanotube manufacturing apparatus according to claim 37, the gas decomposer having a pore diameter of 0.3 to 10 nm.

39. (New) A carbon nanotube manufacturing apparatus according to claim 37, the gas decomposer having a pore diameter of 0.3 to 2 nm.

40. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein the synthesizing portion comprises one or two or more substrates.

41. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein the synthesizing portion comprises two or more substrates arranged approximately parallel to one another.

42. (New) A carbon nanotube manufacturing apparatus according to claim 40, wherein the gas decomposer is placed on a surface of the substrate that serves as the synthesizing portion.

43. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein:

the gas supplying pipe is extended to the interior of the reaction tube so that a releasing port of the gas flow is positioned inside the reaction tube; and

the gas decomposer is placed in the gas supplying pipe in a manner that allows the gas decomposer to have contact with the flow of gas supplied.

44. (New) A carbon nanotube manufacturing apparatus according to claim 43, further comprising an auxiliary heating unit that serves to heat the gas decomposer in the vicinity of the gas decomposer in the gas supplying pipe.

45. (New) A carbon nanotube manufacturing apparatus according to claim 43, wherein the gas decomposer comprises an aggregation of a granular porous material.

46. (New) A carbon nanotube manufacturing apparatus according to claim 43, wherein the gas decomposer comprises an aggregation of a granular porous material formed from a metal oxide material and from a carbon material.

47. (New) A carbon nanotube manufacturing apparatus according to claim 43, wherein the synthesizing portion is placed in the vicinity of the gas flow releasing port of the gas supplying pipe.

48. (New) A carbon nanotube manufacturing apparatus according to claim 47, wherein the synthesizing portion comprises one or two or more substrates.

49. (New) A carbon nanotube manufacturing apparatus according to claim 47, wherein at least one of the substrates serving as the synthesizing portion is placed perpendicular to or at an angle to the direction of the flow of the gas released from the releasing port of the gas supplying pipe.

50. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein the gas decomposer is placed on the entirety of or a part of an inner wall of the reaction tube and the synthesizing portion is placed on a surface of the gas decomposer.

51. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein a metal catalyst is put in the synthesizing portion.

52. (New) A carbon nanotube manufacturing apparatus according to claim 51, wherein the metal catalyst having a thin film form is put in the synthesizing portion.

53. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein the synthesizing portion comprises a substrate that is formed from a material containing a metal catalyst.

54. (New) A carbon nanotube manufacturing apparatus according to claim 37, wherein:

the heating unit comprises a heating furnace; and

the reaction tube is placed inside the heating furnace.

55. (New) A carbon nanotube manufacturing method comprising:
decomposing a carbon-containing raw material carried on a gas flow by bringing the gas flow into contact with a heated gas decomposer; and
synthesizing a carbon nanotube on a synthesizing portion by continuously supplying the decomposed carbon-containing raw material carried on the gas flow to an outside of the gas decomposer to the synthesizing portion,

wherein the carbon nanotube manufacturing apparatus of claim 37 is
employed.